# A PROCESS FOR THE PREPARATION OF MONOCHLOROACETIC ACID

## BACKGROUND

The invention relates to a process for the preparation of monochloroacetic acid from chlorine and acetic acid in the presence of a catalyst.

Such a process for the preparation of monochloroacetic acid is commonly known and generally makes use of a bubble column reactor in which a mixture of acetic acid (HAc) and acetic anhydride is present and through which mixture chlorine gas bubbles are led. Acetic anhydride immediately is converted with chlorine gas into acetyl chloride which is the catalyst for this process. The process generally is conducted at a pressure of from 3 to 5 barg and a temperature of from 115 to 155 °C. In the bubble column reactor, monochloroacetic acid (MCA) and gaseous HCl are formed together with by-products of which dichloroacetic acid (DCA) and trichloroacetic acid are examples. Part of the catalyst acetyl chloride leaves the bubble column reactor as a gas and is recovered to a large extent in a catalyst recovery section. Such a catalyst recovery section is generally complex, as it comprises columns, coolers, heat exchangers, pumps and piping, and consequently is expensive in respect of maintenance and equipment costs.

After the MCA-containing reaction product mixture has passed the bubble column reactor(s) and the catalyst recovery section, DCA is still present in a significant amount, which is typically about 5 %. The MCA/DCA-containing product mixture is subsequently led to a reduction unit where DCA is reduced with hydrogen in the presence of a hydrogenation catalyst, e.g. a Pd-based catalyst. This catalyst not only reduces DCA, but it also reduces MCA to some extent, which is of course undesirable. Moreover, such a reduction unit and its operation is very expensive, and this adds to the costs of the MCA end-product.